



SRS Citizens Advisory Board

Nuclear Materials Committee

Meeting Summary

November 2, 2000
Aiken Federal Building
Aiken, SC

The Savannah River Site Citizens Advisory Board (SRS CAB) Nuclear Materials (NM) Committee held a meeting on Thursday, November 2 to hear presentations on the Canyon Utilization Study, the Plutonium Storage Study and DOE progress on the Defense Nuclear Facilities Safety Board (DNFSB) Recommendations 94-1/2000-1.

CAB Members

Tom Costikyan*
Bill Willoughby*
Jean Sulc*
Ken Goad*
Lane Parker*
Karen Patterson*
Charlene Townsend*
Brendolyn Jenkins**

Stakeholders

Mike French
John Austin
Chuck Keilers, DNFSB

DOE/Contractors

John Anderson, DOE
George Klipa, DOE
George Mishra, DOE
Don Bridges, DOE
Amy Poston, DOE
Jim Bolen, DOE
Bob Hoeppel, WSRC
Tim Chandler, WSRC
Donna Martin, WSRC

***Committee members**

****Committee members not present**

Canyon Utilization Study:

Tom Costikyan, NM Chair, opened the meeting by introducing the DOE speakers. Don Bridges, DOE Materials and Facility Stabilization (MSF) Division, stated he would discuss the Canyon Utilization Study by explaining how the study came about, what has been done to date, and DOE's proposed path forward.

In July 1997, the Secretary of Energy approved a phased Canyon Strategy that allowed for the canyons to operate beyond 2000 to stabilize some SRS materials and limited candidate materials from other DOE sites, including Rocky Flats. Additional studies were authorized, including the Processing Needs Assessment Study, completed in February 1998, and WSRC and DOE Analysis Reports. Other activities impacting the use of the canyons includes the DOE 94-1 Implementation Plan Revision to the DNFSB, the 2000-1 Response to the DNFSB, the Nuclear Materials Stewardship Initiative, and the finalization of the SRS Canyon Utilization strategy that was submitted to Dr. Carolyn Huntoon.

Bridges said DOE has a high confidence that 99% of all nuclear materials at DOE sites have been identified. The first major effort was during the Processing Needs Assessment Study. A data call was sent to all sites to identify materials they had in storage and which organization owned the materials. A second study called the Nuclear Materials Integration Project (NMI, 1998), identified over 1100 categories of materials and their intended disposition routes. Complex-wide material evaluation teams were formed to address plutonium, uranium/thorium and heavy isotopes separately.

As a result of the many studies, DOE has identified items no longer being considered as canyon candidates, those under active review for processing through the canyons and those materials not thought to require canyon processing but the canyons are potential backups.

Items under active review include the following:

- Off-specification HEU (not part of the TVA agreement)
- HEU/PU at Rocky Flats
- Uranium-233
- SRS Mk-18A Targets
- SRS Sand Slag and Crucibles
- Hanford Plutonium Alloys
- LAMPRE

DOE is hoping to send the SRS Sand Slag and Crucibles and the Hanford Plutonium Alloys directly to the Waste Isolation Pilot Plant. Spent nuclear fuel and low-grade plutonium are among the materials of which the canyons are a backup option.

Although 60% of the excess nuclear materials do not have a clear disposition path, they have been screened against processing in the canyons. DOE is currently addressing those materials now.

Bridges said DOE would continue to work diligently to resolve outstanding issues and will document analyses through NEPA and Decision Memorandums. Dialogue with the Defense Nuclear Facilities Safety Board will continue and another version of the Canyon Utilization Report is expected in mid-2001.

In summary, Bridges said essentially all materials potentially requiring canyon processing (>99%) are addressed; the 1% of materials not addressed could go through H Canyon or be stabilized with other emerging technologies; F Canyon could cease Purex operations as early as Fiscal Years 2001/2002; and DOE will begin developing the processing scenario in early 2001.

Karen Patterson, CAB chair, asked about the potential of F Canyon shutting down early, to include the Purex process. John Anderson, Deputy Manager, DOE-MSF, said the potential was there because very few materials remain for canyon processing according to the canyon roadmap. Chuck Keilers further explained that although the roadmap depicts F Canyon operating until 2004, DOE is now considering other disposition pathways for the remaining materials, such as processing them in H Canyon or sending them to the Waste Isolation Pilot Plant.

Bill Willoughby, CAB, asked if the canyon could be restarted once it is "shutdown". Anderson said it would be very hard to restart the canyon if it is shutdown. He cited the difficulties encountered in restarting F Canyon in the early 90s after it had been shutdown due to the end of the Cold War.

Plutonium Storage Study:

George Klipa, DOE Nuclear Materials and Stabilization Division, stated that two offices of DOE (Environmental Management and Fissile Materials Disposition) chartered a study on plutonium storage after the Actinide Packaging and Storage Facility (APSF) project was suspended. The goal of the study was to look for ways to integrate interim storage between the two programs and to identify alternatives to the APSF.

Although the study was completed in May 1999, further evaluations of 235-F or other SRS facilities were recommended and the report was updated in May 2000 to include 235-F analysis. The total storage positions were identified (8,240), and then the storage locations were identified. In addition to storage space at SRS, the Hanford Plutonium Finishing Plant, Los Alamos and Lawrence Livermore National Laboratories had limited storage spaces. The K-Area Materials Storage facility (KAMS) was identified to have the largest number of storage positions (3000).

Six different stabilization and storage scenarios were evaluated in the study. In each scenario, the funding profile was reviewed as well as the time it would take for construction and operation for a stabilization and storage.

- DOE selected Option A which offered the following terms:
- Cancel APSF
- Stabilize SRS material in 235-F
- Move NN-60 material at Lawrence Livermore to SRS vault
- Store NN-60 at Los Alamos in a vault
- Store Hanford Material in the Plutonium Finishing Plant until the Plutonium Immobilization Plant at SRS was operational
- Construct long-term facility with 10,000 storage positions if the US/Russian Plutonium
- Disposition agreement does not take place.

In conclusion, Klipa said DOE believes the interim storage of material at SRS, Hanford and Los Alamos is safe and cost effective.

DNFSB Perspective on 94-1/2000-1 Activities

Chuck Keilers, DNFSB site representative, said the DNFSB is focused on stabilization and packaging of nuclear materials. Although he could not predict if DOE would be successful in the project with Tennessee Valley Authority (TVA), he did say that WSRC has approval and money allocated by Congress to go forward with facility design even without a signed agreement. Keilers said his biggest concern is that TVA will not be fully prepared to receive blended-down solutions when SRS is ready to ship them. This would cause H Canyon to run out of storage space for HEU solutions, essentially ceasing operations and resulting in a delay in stabilizing nuclear materials.

Keilers stated that the DNFSB remains concerned with delays in plutonium stabilization and packaging to possibly as late as 2008, as discussed in the DNFSB 7/14/00 letter. He stated that WSRC has reported that the SRS material does not meet the Interim Safe Storage Criteria (ISSC), but WSRC considered the material to be safe now, in the near-term, due to the likelihood that the material surveillance program would detect any problematic containers early.

Keilers also observed that DOE is now considering earlier shutdown of F-Canyon chemical separation (PUREX) operations. The DNFSB has a long-standing position (part of Recommendation 94-1) that facilities like F and H Canyon that are needed for stabilizing nuclear materials should be maintained in a useable state. Congress has instructed DOE in the FY 01 Defense Authorization Act to submit a plan to Congress on how F Canyon chemical separation activities can be transferred to H Canyon. This Act also requires the Secretary of Energy and the DNFSB to certify certain conditions before funds are appropriated for F Canyon

decommissioning, such as that future fissile material disposition needs can be met solely through full use of H canyon.

DOE has told the DNFSB that some materials have not been stabilized and that the canyon operations should be revisited because of budget constraints. The DNFSB has stated that DOE should report to Congress that crucial activities are not getting accomplished due to lack of funding. DOE has requested a funding realignment for SRS rather than request additional funding.

Copies of the handouts may be obtained by calling 1-800-249-8155.